



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,842	02/08/2002	Yasuhito Aruga	111934	9647

25944 7590 03/30/2004

OLIFF & BERRIDGE, PLC  
P.O. BOX 19928  
ALEXANDRIA, VA 22320

EXAMINER

PARKER, KENNETH

ART UNIT	PAPER NUMBER
----------	--------------

2871

DATE MAILED: 03/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/067,842

**Applicant(s)**

ARUGA, YASUHIITO

**Examiner**

Kenneth A Parker

**Art Unit**

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1, 2, 4 and 7-14 is/are rejected.  
7) ☒ Claim(s) 3, 5 and 6 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Contact holes go through insulators, not conductor (The concept would be nonsensical with a conductor). As best understood, applicant means through an insulator below the conductor.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-2, 8-11, 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitawada et al 06-289415.**

Kitawada et al shows the elements of claim 1 including an electro-optical device comprising: a substrate 301 carrying an electro-optical material (illustrated as twisted

molecules); a first wiring 318 formed on the surface of the substrate; an insulating layer 319 covering the first wiring, the insulating layer being formed on the surface of the substrate; and a second wiring 305 formed over a first region of the insulating layer including a region overlapping a region in which the electro-optical material is formed (the portion on the left side of the seal 303) and a second region which corresponds to the remaining region other than the first region of the insulating layer (any other portion, such as the portion under the seal), the second wiring being connected to the first wiring via a contact hole (illustrated but unlabeled) formed within the first region of the insulating layer.

Kitawada et al further shows the device of claim 2 having a counter substrate, with the electro-optical material sandwiched between the substrate and the counter substrate (302), and a sealing material disposed between the substrate and the counter substrate, wherein the first region includes a region of the insulating layer which faces the sealing material. Here the first region has been redefined to include the portion under the seal. So the part of 305 that corresponds to the second region in the part that protrudes from under the seal on the left side.

The device *is* an apparatus. The pixel electrode layer 314 is the layer employed for 305, which is the ITO (a conductive oxide ) layer (see abstract).

**Claims 1-2, 8-11, 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoshino et al JP 2000-194013.**

The ITO layer crossing into the liquid crystal region and connecting a lower electrode through a hole (see cover figure), through insulator 48. Therefore, these claims are anticipated by the reference.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-2, 4 and 7-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sukegawa et al 5636329 in view of Inada et al 5608559.**

Sukegawa et al shows an ITO layer connected through an insulator contact holes to a lower metal layer in the terminal portion of the display (therefore the mounting region). Lacking is the use of COG devices, flexible circuits, or the opposite substrate with the electrooptical material in the middle. An opposite substrate and electrooptic material was inherent to any liquid crystal device (liquid crystal is electrooptic, and without an opposite substrate the liquid crystal would spill on the ground).

COG (chip on glass) with the integrated circuit (electronic component) located as claim with was well known for low cost manufacturing and high resolution capability (the well known status is evidence by Sukegawa, which shows such a configuration as prior

art in figure 4). Therefore it would have been obvious, to one of ordinary skill, to employ an electronic component as claimed as was well known for the benefit low cost and high resolution.

**Claims 1-2, 4 and 7-11, 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosihino et al JP 2000-194013 in view of Inada et a 5608559.**

Lacking is the use of COG devices, flexible circuits, or the lower electrodes being of an elemental metal. It was notoriously well known to employ aluminum or tantalum for low cost and good conductivity. Therefore it would have been obvious to one of ordinary skill to use aluminum or tantalum which was conventionally for the benefit of low cost and high conductivity.

COG (chip on glass) with the integrated circuit located as claim with was well known for low cost manufacturing and high resolution capability (the well known status is evidence by Sukegawa, which shows such a configuration as prior art in figure 4). Therefore it would have been obvious, to one of ordinary skill, to employ an electronic component as claimed as was well known for the benefit low cost and high resolution.

***Allowable Subject Matter***

**Claims 3, 5-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

### ***Response to Arguments***

Applicant's arguments filed have been fully considered but they are not persuasive.

The arguments regarding a plurality of hole is not persuasive, and Hoshino shows a plurality of holes 24 and 25 (for both gate and source lines), and as Kitawada also shows a plurality of holes (one in each corner), and as Sukegawa et al shows a plurality of holes. With the connections are through an insulator 3, so the presence of a another insulator 9 is irrelevant.

It is noted that the assertion of well known elements has not been challenged by applicant, and therefore have take the status of admitted prior art.

### ***Conclusion***

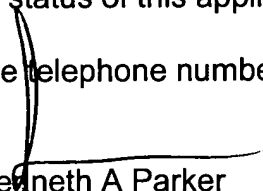
**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Parker whose telephone number is 703-305-6202. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 305-3492. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.



Kenneth A Parker  
Primary Examiner  
Art Unit 2871